

DISCUSSION OF THE AMENDMENT

Claims 1-38 are active in the present application. Claims 1 and 12 are amended to correct typographical error. Claims 12-21, 24-26, 30-32, 34 and 36 are non-elected claims presently withdrawn from prosecution. The amendment to Claims 1 and 12 is in the formulas for the component X of the compound of formula (III). Support for the amendment is found on page 17 of the specification. Claims 27-34 are amended for clarity. Claims 37 and 38 are new claims. Support for the new claims is found in the Examples of the present specification.

No new matter is added.

### REQUEST FOR RECONSIDERATION

In the Office Action of June 22, 2006, the Office maintained the rejection of the present claims as obvious in view of the patent to Bader (U.S. 5,384,379). The Office states the following as a basis for maintaining the rejection:

The Examiner remains of the position that the instant mixture product produced by the process of reacting (III) and (IV) falls within prior art 1:0.5 to 0.5:1 (I) an (II) mixture, though produced by an upper limit of less than 2.0 mol of (III), abutting prior art at least 2.0 mol of (III).

See the first sentence of page 5 of the June 22, 2006 Office Action.

Applicants submit that the Office's statement is contradictory on its face. On the one hand the Office states that the claimed invention "falls within prior art" while on the other hand the Office concedes that the claimed invention is "produced by an upper limit of less than 2.0". The Office can't have it both ways but must instead decide whether the claimed invention falls within or outside the prior art disclosure.

Applicants submit that there can be no question that the claimed invention falls outside the prior art disclosure. This is evidenced at least by the requirement of the present claims that the compound of formula (II) is formed by reacting compounds (III) and (IV) in a ratio that must be (from 1.0 to <2.0):1. In contrast, Bader requires that at least two mols of a compound of formula (III) are reacted with a compound of formula (IV), e.g., >2.0:1 .

Applicants pointed out the deficiencies of the rejection in the amendment filed in the present case on January 3, 2006 (see pages 12-17 of the January 3, 2006 Amendment).

The January 6, 2006 Amendment included an explanation of how the data of the original specification prove that the claimed invention provides an unexpectedly different or significantly superior transparent plastic. The Office, however, is of the opinion that the evidence of the specification "is not clear and convincing with respect to the criticality" of the

difference between the claimed invention and Bader (e.g., the difference in the molar ratio of the compounds of the formula (III) and (IV)).

Applicants draw the Office's attention to M.P.E.P. § 716.01 - Generally Applicable Criteria which states: "where the evidence 'e.g., submitted in a Declaration under 37 C.F.R. § 1.132] is insufficient to overcome the rejection, the Examiner must specifically explain why the evidence is insufficient.' General statements such as 'the declaration lacks technical validity' or 'the evidence is not commensurate with the scope of the claims' without an explanation supporting such findings are insufficient."

Applicants explained in the Amendment submitted on January 6, 2006 that the evidentiary standard for determining whether a claimed invention is patentable is preponderance of the evidence. Here, the Office appears to apply the "clear and convincing" evidentiary standard without providing any authority for a heightened evidentiary requirement. Applicants submit that it is legally incorrect to require that Applicants demonstrate by "clear and convincing evidence" that the claimed invention is patentable.

It further appears that the Office is of the belief that the clear and convincing evidentiary standard is not met because Applicants did not provide a side-by-side comparison of the claimed invention with the prior art. The Office cites to conditions such as reaction solvent, mol of NaOH used, reaction temperature, and relative mol% of EDTDMA used to make the polymer, as "variables" that may affect the refractive index of any transparent plastic made by the process of the claimed invention.

Applicants submit there is no evidence of record that would indicate or suggest that the "variables" cited by the Office would in any way affect the refractive index or ABBE numbers of the transparent plastics made by the claimed process. For example, Applicants submit that it is readily evident to those of ordinary skill in the art that the refractive index properties of a transparent plastic are derived from the cured plastic. Conditions that affect

the preparation of the monomer species used to make the transparent plastic would not be expected to have any affect on the transparent plastic's optical characteristics.

The Office provided no reasoned technical basis for asserting that the "variables" would have any effect upon the optical properties of a transparent plastic made by the claimed process. In effect, the Office is taking official notice that the "variables" would indeed have a material effect upon the optical properties of a transparent plastics. Applicants seasonably traverse any such assertion by the Office.

According to the Office's logic, in order to provide a side-by-side comparison of any two polymers, it is necessary to compare polymers made from monomer units that are themselves made under exactly the same conditions. Applicants submit that this is simply not a reasonable technical or legal position. For example, would it be necessary to prove to the Office that the ethylene monomer units of two different polymers were produced under exactly the same conditions if one of skill in the art were to compare an inventive polyethylene/polybutene copolymer having certain transparency characteristics with a prior art polyethylene/polybutene copolymer? Of course not, absent any evidence that the process of making the monomers materially affects the characteristics of the monomers. In the present case, the Office brought forth no evidence to indicate or suggest that the "variables" of the process of making the components that are polymerized to form the transparent plastic would have any affect upon the properties of the transparent plastic derived therefrom. The Office's position is therefore unsupportable and the rejection should be withdrawn.

The Office newly rejected the claims as obvious in view of a patent to Smith (U.S. 6,342,571). The Office asserts as one basis for the rejection that the polythiols of the present claims (e.g., the compounds of formula (I) and (II) recited in present Claim 1) are the same as the thiols of the process of Smith wherein thiol monomers are polymerized to form a plastic.

At the outset, Applicants submit the claimed invention must be different from the prior art at least because the presently claimed invention requires the polymerization of a mixture of polythiol materials whereas the polymerization of Smith is carried out with thiol monomers.

The Office further asserts that the mixture of compounds of formula (I) and (II) recited in Claim 1 would necessarily result from the polymerization of the prior art monomer thiols. In fact the Office states:

The instant mixture produced by reacting (III) and (IV) recited in a product-by-process format appears to be identical to prior art thio(meth)acrylate mixture (A)(I) and (A)(II), produced by reacting a (meth)acryloyl chloride or (meth)acrylic anhydride (V) with a polythiol (i.e., 1,2-ethanedithiol) (A)...

See lines 11-16 of page 7 of the June 22, 2006 Office Action.

Not only do Applicants not agree with the Office's assertion, Applicants point out that this assertion is directly contradictory to the Office's position with respect to the patentability of the present claims in view of Smith. To support the rejection made in view of Smith, the Office asserted that the comparative data provided by Applicants is not commensurate in scope with the prior art because there are "variables" which are unaccounted for. However, when it comes to the patentability of the present claims in view of Smith, the Office appears to be of the opinion that such "variables" would have no effect upon the final product and in fact the product of Applicants' claimed process would be "identical" with the prior art. Applicants submit that the Office can't have it both ways. Either the asserted "variables" make a difference or they do not.

With respect to Bader, Applicants submit that there is no evidence of record to show that such "variables" may affect in any way the optical properties of the transparent plastic ultimately formed by the claimed process. As Applicants have stated, and as shown by Applicants' data, it is the ratio of the compounds recited in the claims (i.e., the ratio of the

compounds of formula (III) and (IV)) that makes a difference with respect to the transparent plastic's optical properties.

Moreover, Smith discloses that the prior art polymerization is carried out on a mixture that must include a polythiol monomer having at least two thiol groups and a further comonomer (see column 3, lines 17-32; column 2, lines 49-50; column 3, lines 17-30; and column 4, line 54 – column 5, line 8, etc.).

Smith characterizes some of the prior art monomers as "polythiol" (see column 4, line 57). Smith however requires the presence of a further polythiol monomer and a comonomer. The polythiol monomer of Smith is described in the paragraph bridging columns 4 and 5 of the Smith patent.

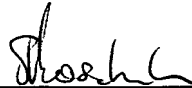
Applicants' draw the Office's attention to new dependent Claims 37 and 38. The new dependent claims state that the mixture that is polymerized in Claims 1 and 12 is a mixture that contains only the compounds of formula (I) and (II). Applicants submit that it is self-evident that the mixture also includes an initiator so that polymerization may take place but that this initiator is not incorporate into the polymer. The new claims are closed to the presence of additional monomer units that are polymerized to form the transparent plastic. Applicants submit that the subject matter of new dependent claims 37 and 38 is further patentable over Smith because the compositions of Smith are necessarily excluded from the new dependent claims.

Applicants submit that new Claims 37 and 38 are therefore further patentable over the prior art relied upon by the Examiner.

For the reasons discussed above, Applicants submit that the comments above show that the presently claimed invention is distinguished from the prior art relied upon by the Office and respectfully requests withdrawal of the rejections.

Respectfully submitted,

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